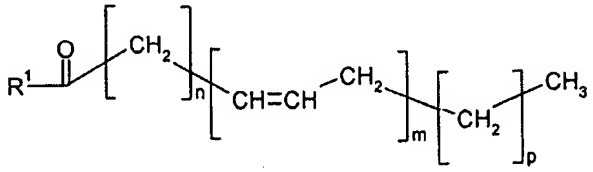
AMENDMENTS TO THE CLAIMS

Listing of Claims:

1. (Currently amended) A process for the production of compounds of the following general formula I



(I)

in a transgenic oil producing plant with a content of at least 1 % by weight of said compounds in reference to the total lipid content of said plant, wherein the process comprises the following steps:

a) introducing at least one nucleic acid sequence encoding a Δ-9-elongase into an oil producing plant, wherein said Δ-9-elongase comprises the amino acid sequence of SEQ ID NO: 4,

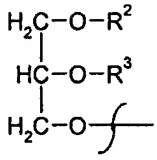
b) introducing at least one second nucleic acid sequence encoding a Δ-8-desaturase, wherein the Δ-8-desaturase comprises the amino acid sequence of SEQ ID NO: 2,

c) introducing at least one third nucleic acid sequence encoding a Δ-5-desaturase, wherein the Δ-5-desaturase comprises the amino acid sequence of SEQ ID NO: 6, and

d) cultivating and harvesting said oil producing plant;

wherein the substituent R^1 in formula I has the following meanings:

R^1 = hydroxyl-, Coenzyme A-(Thioester), phosphatidylcholine-, phosphatidyl-ethanolamine-, phosphatidylglycerol-, diphosphatidylglycerol-, phosphatidylserine-, phosphatidylinositol-, sphingolipid-, glycoshingolipid- or a residue of the general formula II:

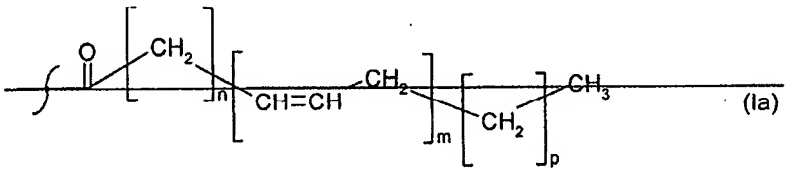


(II)

wherein the substituents R^2 and R^3 in formula II are independent of each other unsaturated C_{16}-, C_{18}-, C_{20}- or C_{22}-alkylcarbonyl- with at least three double bonds, and ~~have the following meanings:~~

~~R^2 = hydrogen-, phosphatidylcholine-, phosphatidylethanolamine-, phosphatidylglycerol-, diphosphatidylglycerol-, phosphatidylserine-, phosphatidylinositol-, shingolipid-, glycoshingolipid-, glycoshingolipid- or saturated or unsaturated C_2-C_{24}-alkylcarbonyl-,~~

~~R^3 = hydrogen-, saturated or unsaturated C_2-C_{24}-alkylcarbonyl-, or R^2 and R^3 independent of each other a residue of the formula Ia:~~



(Ia)

wherein n, m, and p in formula I ~~and Ia~~ have the following meanings:

n = 3, 4 or 6, m = 3, 4 or 5 and p = 0 or 3.

2. (Previously presented) The process of claim 1, wherein the nucleic acid sequence encoding a Δ-9-elongase comprises the nucleic acid sequence of SEQ ID NO: 3, the nucleic acid sequence encoding a Δ-8-desaturase comprising the nucleic acid sequence of SEQ ID NO: 1, and the nucleic acid sequence encoding a Δ-5-desaturase comprises the nucleic acid sequence of SEQ ID NO: 5.

3-6. (Cancelled).

7. (Previously presented) The process of claim 1, wherein the transgenic oil producing plant is selected from the group consisting of rapeseed, poppy, mustard, hemp, castor bean, sesame, olive, calendula, punica, hazel nut, almond, macadamia, avocado, pumpkin, walnut, laurel, pistachio, primrose, canola, peanut, linseed, soybean, safflower, sunflower and borage.

8. (Previously presented) The process of claim 1, wherein the compounds of the general formula I are isolated in the form of oils, lipids of free fatty acids.

9. (Previously presented) The process of claim 1, wherein the compounds of the general formula I are isolated in a concentration of at least 5 % by weight in reference to the total lipid content.

10-25. (Cancelled).

26. (Currently amended) The process of claim 1, wherein the substituents R^2 and R^3 are independent of each other ~~saturated or~~ unsaturated C_{20}–alkylcarbonyl-.

27. (Cancelled).